

Diamec Smart 4

Underground core drill rig
for mineral exploration



COMPACT AND SMART

Diamec Smart 4 is the most compact rig in the Diamec Smart range, perfect for drilling in confined spaces. It is equipped with the same advanced Rig Control System (RCS) as the other rigs in the Diamec Smart range, allowing it to be operated automatically. Diamec Smart 4 is easy to set up and can be equipped with a long or short feed frame to enable the right configuration for any working space.

+ MAIN BENEFITS

Automated drilling increases productivity and lowers operational costs

Fast and safe positioning means less time wasted between holes

Compact design with unique positioner enables operation in confined spaces



The gas spring rod holder closes instantly in case of loss of hydraulic pressure - ensuring that the drill string is not lost.

Increased safety and productivity thanks to the unique wire line winch design which enables drilling angles from -90 to +90 degrees without repositioning.

An inductive water flow meter, without moving parts, and a highly accurate pressure sensor increases reliability of the reading and availability of the machine.



Feed frame, with protected and direct acting telescopic feed cylinder, utilizes equal pull/push force and high travel speed

Unique positioning design including a 360° turn table enables fast and accurate rig set up, especially in confined spaces

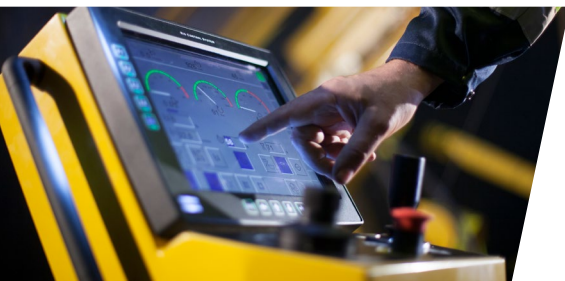
Oil cooler on power unit is optional and not included in the standard configuration.

A-N rotation unit with sealed gear box, hollow spindle and hydraulic chuck. The chuck and rod holder are synchronized and the rotation unit and rod holder come with a hinge design

Light weight control panel with adjustable height, touch screen and multi-functional joystick for easy operation

A COMPACT AND PRODUCTIVE RIG

Diamec Smart 4 is based on the well-proven Diamec Smart range. The compact size of the Diamec Smart 4 enables it to be used for both shallow to medium depth underground exploration as well as in drilling applications such as tunneling and dam projects.



+ AUTOMATED DRILLING

Diamec Smart 4 has an advanced Rig Control System allowing it to be operated automatically. From the touch screen on the remote control panel, drilling parameters are easily set and monitored. The automatic drilling of the complete run with constant penetration rate, can improve bit life up to 400% compared to manual drilling.



+ LESS TIME WASTED BETWEEN HOLES

Productivity is increased and positioning made simple thanks to a unique positioner and turntable with increased coverage. The positioner facilitates movement of the feed frame from -90 to +90 and the wireline winch design eliminates the need for repositioning in any drilling angle.



+ COMPACT AND FLEXIBLE

Thanks to a shorter feed, the Diamec Smart 4 can be used in spaces with a height as low as 2 285 meters using wireline drilling and even lower with conventional drilling. Sophisticated drilling tasks, such as setting up casings, are simplified thanks to the fact that both the rotation unit and rod handler utilize a hinge design moving them off the drill center.

ATLAS COPCO SERVICE

Even the best equipment requires regular service to ensure optimal performance. Atlas Copco provides service solutions to safeguard an optimized relationship between productivity, availability and operational cost. Atlas Copco Mining and Rock Excavation Technique has over 3 300 technicians located in over 80 countries. By combining the usage of Atlas Copco genuine parts with service provided by a certified Atlas Copco technician, you'll have a winning combination no matter of where in the world you operate.



TECHNICAL SPECIFICATIONS

CORE DRILLING DEPTH CAPACITY

The below drill depth capacities serve as guidelines and refer to vertical down drilling. Atlas Copco cannot guarantee that these results can be achieved in all drilling conditions.

(Wireline hoist capacity is 500 m with 4.75 mm wire)	Metric	Imperial
A wireline	900 m	2 950 ft
B wireline	700 m	2 300 ft
N wireline	550 m	1 800 ft

ROTATION UNIT ALTERNATIVES

Model	60CC A-N	
	Metric	Imperial
Rod sizes	A-N	A-N
Max torque	744 Nm	549 ft lbf
Max rotation speed	1 870 rpm	1 870 rpm
Spindle (inner diameter)	78 mm	3.1 in
Power	hydraulic motor	hydraulic motor
Chuck axial holding force	100 kN	22 480 lbf
Weight	150 kg	330 lb

FEED FRAME ALTERNATIVES

Model	800		1 750	
	Metric	Imperial	Metric	Imperial
Feed stroke length	800 mm	31.5 in	1 750 mm	68.9 in
Feed force / pull force	52 kN	11 742 lbf	52 kN	11 742 lbf
Max feed speed	1.0 m/s	3.2 fps	1.0 m/s	3.2 fps

ROD HOLDER

Hydraulically open and gas pressure closed. In case of loss of hydraulic pressure, the rod holder closes instantly.

	Metric	Imperial
Max rod size	89 mm	3.5 in
Bore (without jaws)	102 mm	4.0 in
Bore (without covers)	170 mm	6.7 in
Axial holding force	45 kN	10 120 lbf
Axial holding force (jaws with TC inserts)	90 kN	20 240 lbf

WIRELINE HOIST

	Metric	Imperial
Capacity (4.75 mm wire)	500 m	1 640 ft
Pull min. (full drum)	4.6 kN	1 039 lbf
Pull max. (empty drum)	11.2 kN	2 523 lbf
Line speed min (empty drum)	88 m/min	287 ft/min
Line speed max (full drum)	213 m/min	698 ft/min
Weight (without wire)	110 kg	182 lb
Level wind angle	Adjustable	Adjustable

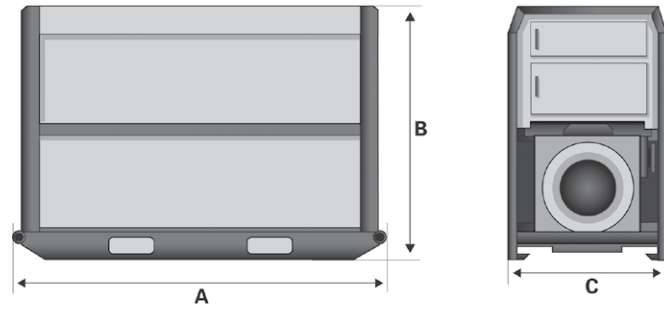
CONTROL SYSTEM AND INTERFACE

Control system type	Atlas Copco Rig Control System (RCS)
Display	17" touch screen
Controls	Joystick, control knob and foot pedal
Data logging	Internal memory
Data Export	USB Port
Weight	24 kg (53 lb)

POWER UNIT

Electrical power unit with two variable flow hydraulic pumps, mounted in tandem.

Main pump		
	Metric	Imperial
Power	45 kW	60 hp
RPM	1 450 rpm	1 450 rpm
Main pump		
Max flow	125 l/m	33 gpm
Max Pressure	280 bar	4 061 psi
Service pump		
Max flow	40 l/m	10.5 gpm
Max pressure	240 bar	3 481 psi
Cooler	Water type oil cooler	Water type oil cooler
Oil tank	70 l	18.5 gal
Dimensions		
A	1 604 mm	63 in
B	1 120 mm	44 in
C	710 mm	28 in
Weight	700 kg	1 510 lb



OPTIONAL EQUIPMENT AND ACCESSORIES

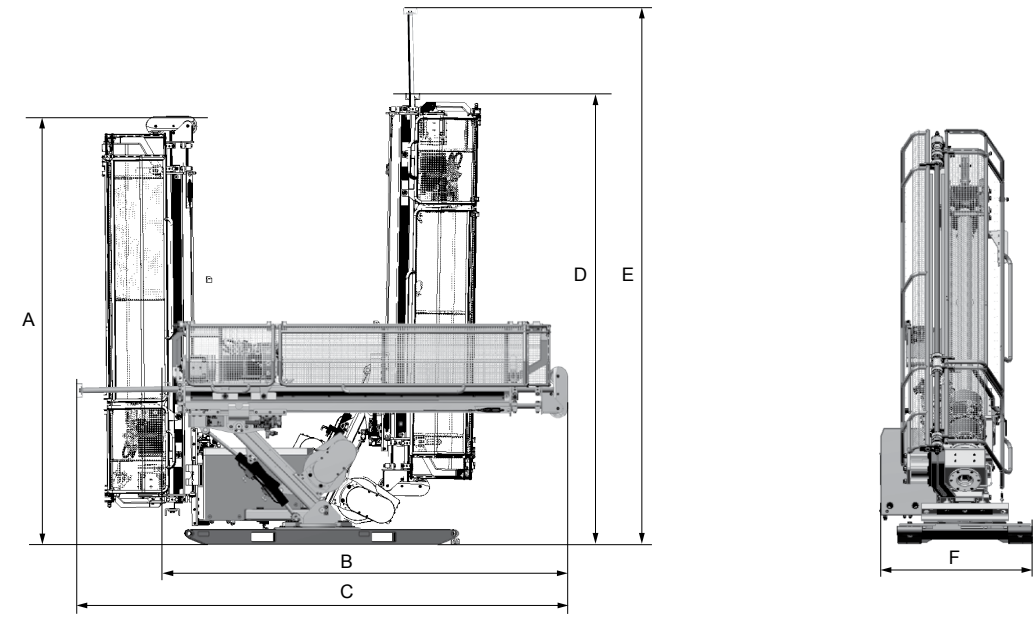
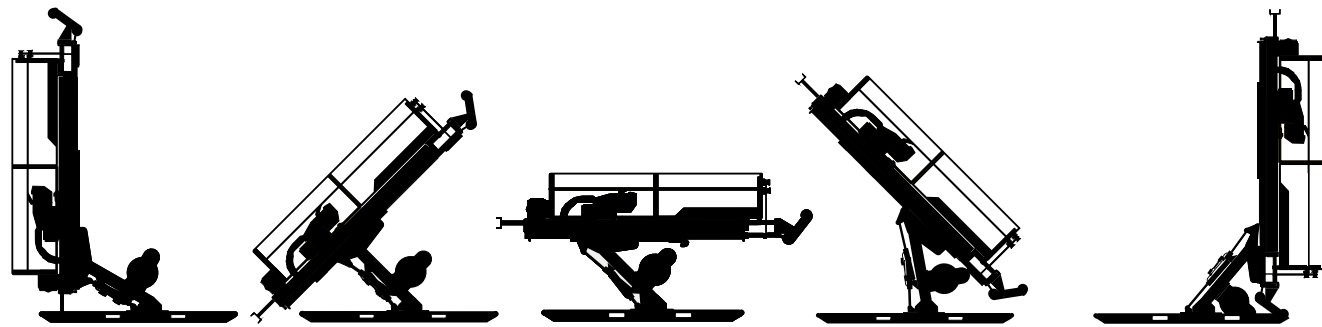
Bracing device	Device suitable for use in narrow tunnels and drifts. It allows simple anchoring of the feed frame between the floor and roof/wall of the gallery, drift or tunnel.
Wheel kits	For easy repositioning of both rig and power unit.
Wireline sheave	For steep up-hole drilling.
Air/Oil cooler	Air cooled heat exchanger for cooling of the hydraulic oil.
Water collector	The water collector seals against the rock face and allows collection of flush water.
Keyhole wall bracket	Available for both A-N.
Dimension kits	Jaws and bushing kits in different sizes – steel and TC inserts.
RCS service box	Includes testing equipment for RCS control system troubleshooting.

FLUSH PUMP ALTERNATIVES

The flush pumps are designed for both mud and water flushing. The distribution block is prepared for mounting of accumulator, adjustable steady flow valve and other optional equipment.

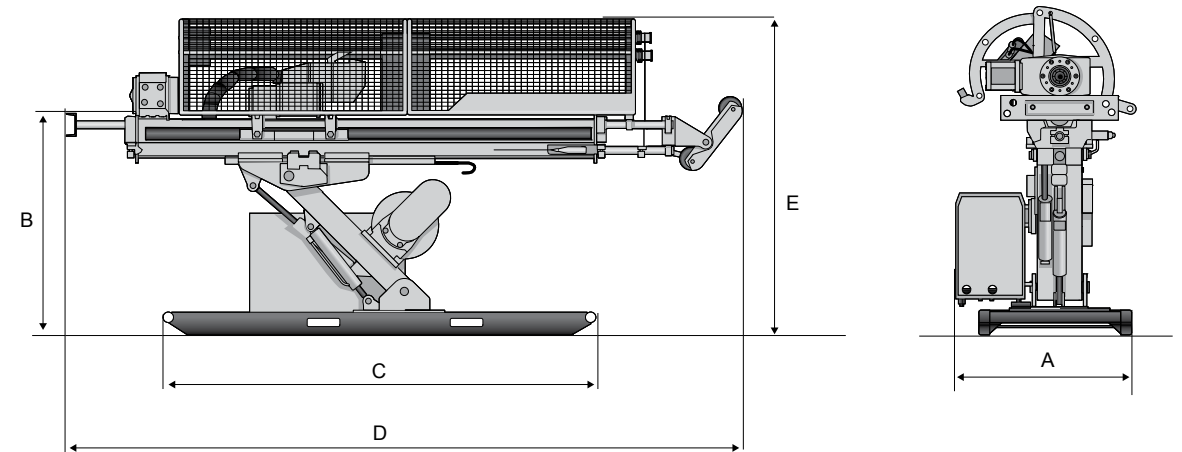
Model	Trido 80H, hydraulic driven	
	Metric	Imperial
Flow	80 l/m	21 gpm
Pressure	50 bar	700 psi
Weight	130 kg	287 lb

WORKING POSTIONS FROM -90 TO +90



WORKING DIMENSIONS

Dimension	800		1 750	
	Metric	Imperial	Metric	Imperial
A	2 400 mm	95 in	3 400 mm	134 in
B	2 400 mm	95 in	3 400 mm	134 in
C	3 300 mm	130 in	4 300 mm	169 in
D	2 750 mm	108 in	3 750 mm	148 in
E	3 650 mm	144 in	4 650 mm	183 in



TRANSPORT DIMENSIONS AND WEIGHT

Dimension	800		1 750	
	Metric	Imperial	Metric	Imperial
A	2 400 mm	95 in	3 400 mm	134 in
B	1 850 mm	73 in	1 850 mm	73 in
C	2 260 mm	89 in	2 260 mm	89 in
D	1 080 mm	43 in	1 080 mm	43 in
E	930 mm	37 in	930 mm	37 in
Weight (incl. A-N Rotation Unit)	1 500 kg	3 307 lb	1 600 kg	3 527 lb

COMMITTED TO SUSTAINABLE PRODUCTIVITY

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towards the environment and the people around us.

We make performance stand the test of time.

This is what we call – Sustainable Productivity.

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